

A B S T R A C T

The long-side surface (first surface) (19-1) of a triangular prism (19) is a detection surface. The distal end portions of coaxial

5 light-emitting/light-receiving optical fiber cables (17) are joined to one short-side surface (second surface) (19-2) of the prism (19). A thermoelectric cooling element (2) is mounted on the other short-side surface (third surface) (19-3) of the prism (19). A mirror (10)

10 is provided between the cooling surface (2-1) of the thermoelectric cooling element (2) and the short-side surface (19-3). When dew condensation occurs on the detection surface (9-1), part of light applied from an optical fiber (17-1) on the light-emitting side onto the

15 lower surface (lower detection surface) (19-4) of the detection surface (19-1) exits from the prism (19) through the condensed dew. Consequently, the specular reflection of the light applied onto the lower detection surface (19-4) is reduced. The specular reflection

20 returns to the lower detection surface (19-4) by a mirror surface (10-1) and is specularly reflected again. The specular reflection then enters an optical fiber (17-2) on the light-emitting side. Dew condensation on the detection surface (19-1) is detected by a change in

25 the intensity of light received through the optical fiber (17-2).